

Patent claims

1. Arrangement for locking of threaded pipe connections wherein two connection units (7, 8) are threaded and provide a female and male threaded section, respectively, 5 which are screwed together, the locking arrangement comprising a first (1) and a second (2) locking ring, with a first and a second side, which lock the connection units radially with respect to each other, characterized in that the first and second 10 side of the locking rings comprise teeth and intermediate notches, wherein the first (1) and second (2) ring engage each other with corresponding teeth (4, 5) on their first sides and that each of the two rings (1, 2) has a different number of notches and teeth (3, 6) formed on their second 15 sides, which two second sides, facing their respective connection units (7, 8) are formed to engage a corresponding number of notches (11, 12) and teeth (9, 10) formed on a shoulder at the facing edge of the connection units (7, 8) after the rings (1, 2) are spread apart in 20 axial direction and, at the same time, the mutual engagement between the first (1) and second (2) ring is maintained.
  
2. Arrangement according to claim 1, characterized in that the locking rings (1, 2) 25 are arranged to slide in radial and axial direction on a shoulder (15, 16) on the connection units (7, 8).
  
3. Arrangement according to claim 1, characterized in that the locking rings (1, 2) are provided with teeth (3, 6) that have straight flanks, 30 and notches with slanted sides at the sides facing the connection units (7, 8).
  
4. Arrangement according to claim 1, characterized in that the connection units (7,

8) are provided with teeth (9, 10) with slanted flanks, and notches (11, 12) with straight sides.

5. Arrangement according to claim 1, characterized in that the teeth (3, 6, 9, 10) and the notches (11, 12) which engage each other are formed with a sufficient clearance to absorb possible small deformations of the locking rings (1, 2).

6. Method for locking of threaded pipe connections utilizing the arrangement according to claim 1, 10 characterized in the following steps;

- arranging two locking rings (1, 2), which engage each other via teeth (4, 5) and notches on their first sides, on a shoulder (15, 16) of the connection units (7, 8),

15 - screwing the connection units (7, 8) together,

- bringing the teeth (4, 5) and notches of the second sides of the locking rings (1, 2) to engagement with the notches (11, 12) and teeth (9, 10) of the connection units (7, 8) after screwing the connection units (7, 8) together,

20 - spreading the rings (1, 2) apart in axial direction,

- locking the locking rings (1, 2) with respect to each other in axial direction by means of locking devices (13)

25 7. Method according to claim 6, characterized in that the locking rings (1, 2) are manually spread apart in axial direction, and are locked by means of locking bolts (13).